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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

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| EXAMINER |
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POLTORAK, PIOTR

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| ART UNIT | PAPER NUMBER |
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2134

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 02/02/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/631,366

Applicant(s)

KWAN, PHILIP

Examiner

Peter Poltorak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 31 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

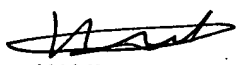
Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


KAMBIZ ZAND
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 7/31/06.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

ETAILED ACTION

1. Claims 1-21 have been examined.

Priority

2. Acknowledgment is made of applicant's claim for priority based on an U.S. Provisional Patent Applications 60/742158 and 60/472170, both filed on May 21, 2003.

Drawings

3. The drawings are objected to because of following informalities. Fig. 1 is presented to support discussions regarding prior art (see pg. 1 of the specifications, for example). Thus, Fig. 1 should be labeled as a prior art figure. Furthermore, under 37 CFR 1.83(a) the drawings must show every feature of the invention specified in the claims. Therefore, the "removing the second source IP address from the table when the second source IP address is determined to no longer be present on the port (claim 6-7 and 14) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be

renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 14 is objected to because of the following informalities: the second term "present" in the phrase "... is not present on present ..." appears to be unnecessary. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 6-7, 11 and 13-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that applicant regards as the invention.
6. Ports are not storage devices and the phrase: "IP address ... present on the port" recited in claims 6-7, 11 and 13-14 is not understood.
7. Claim 10 recites: "receiving a first data packet on the port; ... passing the data packet through the port, if the first source IP address stored in the table". It appears

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that "the data packet" refers to the previously cited "a first data packet". As a result, the limitation is not understood. The first part clearly indicates that the data packet is already passed through the port ("receiving a first data packet on the port") regardless whether the first source IP is or is not stored in the table. As a result, it is not clear whether applicant attempts to limit any additional data packets arriving from the first source IP address or whether the limitation intends to restrict the packet to be forwarded to the destination if the first source IP address is not stored in the table. The specification does not clarify the ambiguity. As a result the metes and bounds of the limitation cannot be ascertained.

8. Claims 6-7 and 14 are ambiguous, perhaps missing essential elements. Claims 6-7 and 14 are dependent on claims reciting a table storing MAC/IP addresses used in filtering data. Claim 6-7 and 14 add limitations that require removing an address from the table when the address is not present on the first port. The relationship between the address in the table and ports is not understood. It is not clear whether the limitation is directed towards the active connection between the device and a source network device or whether some other interpretation should be exercised. If the limitation would refer to the active session then it is not cleared whether the table is an access control table, as it seems to be the point of the invention (see Abstract) or simply a reference table that keeps a track of current sessions. Applicant should amend the claim language and/or include missing limitations in order to clarify the connection between elements of claims 6-7, 14 and the claims they depend on.
9. For purposes of further examination the phrases are treated as best understood:

Appropriate correction is required.

Claim Rejections - 35 USC § 102

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

10. Claims 1-2, 4-5 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Doyle (U.S. Patent No. 7134012).

As per claims 1 and 10, Doyle discloses a network device comprising a port (e.g. Fig. 1), receiving a first data packet on the port (Fig. 5, step 500); determining a first MAC address for the received first data packet; determining a first source IP address for the received first data packet, wherein the first source IP address for the received first data packet and the first MAC address for the received first data packet form a first source IP address and MAC address pair (Fig. 5, step 510), comparing the first source IP address and MAC address pair with information in a table which stores source IP address and MAC address pairs (Fig. 5, Step 530, Table 2 and col. 9 lines 19-28, for example. Note that Doyle discloses similar teaching in Fig. 6, 7 etc.).

11. As per claims 2, 4, Doyle disclose learning the source IP address for the new received MAC address, wherein the learning of the source IP address utilizes at least one of the processes selected from the following group of processes: (1) using a reverse address resolution protocol, (2) listening to a DHCP response packet; (3) watching for a IP header information in a data packet and (4) listening to ARP

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requests and ARP reply messages (col. 3 lines 46-54); and storing the new IP/MAC address pair in the table (col. 3 lines 52-54, Table 2, col. 7).

12. As per claim 5, the table reads on Access Control List (it is used to filter data) and in order for the device to access the entries, the table inherently must be stored in a content addressable memory.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 10 is rejected under 35 U.S.C. 102(b) as being anticipated by firewalls as illustrated by Pfleeger (Charles P. Pfleeger, "Security in computing", 2nd edition, 1996, ISBN: 0133374866).

Firewalls are devices that are filter traffic that travels from a source to a destination ("What is Firewall", Pfleeger, pg. 428). Firewalls may pass the data packet only from certain sources ("utilize policies to permit accesses only from certain places", "What is Firewall", Pfleeger, pg. 428), and on page 429-430 Pfleeger discusses "screening routers" that implement IP address to identify a particular source/destination.

Furthermore, in network environment devices inherently utilize ports to communicate with each other. Thus, Pfleeger disclosure reads on receiving a first data packet on a port, determining a first source IP address for the first data packet received at the

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port and passing the data packet through the port, if the first source IP address is stored in a network device.

14. Although Pfleeger does not explicitly disclose using a table to store and retrieve data such as IP address, utilizing tables to store and retrieve data is well known in the art as illustrated by the Pfleeger on pg. 242-243 (other examples of table storing data relevant to routing information can be found in U.S. Patents No. 6256314, 6907470 etc.). One would have been motivated to use tables to store and retrieve data such as IP address especially in light of the benefits of table structures as evidenced by their commercial success.

15. Claim 6-8, 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle (U.S. Patent No. 7134012) in view of Official Notice.

Doyle discloses filtering network packets received on ports.

16. As per claim 8 and 11-13, Doyle does not disclose maximum number of source IP addresses already on the port resulting in blocking packets at the port.

Official Notice is taken that assigning maximum number of source IP addresses to ports it is old and well-known practice (U.S. Pub. No. 20020055980 or U.S. Patent No. 6338089).

One of ordinary skill in the art at the time of applicant's invention would have been motivated to assign maximum number of source IP addresses to ports giving the benefit of efficiency. Reaching maximum number of source IP address would inherently, at least temporarily, result in blocking packets at the port.

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17. Also, as per claim 8 and 15, Doyle does not explicitly disclose an administrator selecting the maximum number of source IP addresses.

Official Notice is taken that configuring computers by administrators (e.g. determine selection of values, e.g. ports) is old and well-known practice in the art of computing (e.g. DHCP scope administration). One of ordinary skill in the art at the time of applicant's invention would have been motivated to allow administrators to configure computers giving the benefit of network customization.

18. As per claims 6-7 and 14, Doyle does not disclose determining and removing the first source IP address from the table when the first source IP address is not present on the first port.

Official Notice is taken that it is old and well-known practice to monitor activity of computer processes, including network connections and terminate inactive activities (e.g. U.S. Patent No. 6338089). One of ordinary skill in the art at the time of applicant's invention would have been motivated to employ monitor computer processes such as IP network connection and remove inactive processes given the benefit of efficiency, e.g. by preventing deadlocks.

19. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle (U.S. Patent No. 7134012) in view of Whelan (U.S. Pub. No. 20040003285).

Doyle disclosure has been discussed supra.

Doyle does not disclose performing a reverse IP check to confirm the learned source IP address.

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Whelean discloses performing a reverse IP check to confirm the IP address (Whelean [0036]). It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to perform a reverse IP check to confirm the IP address. One of ordinary skill in the art would have been motivated to perform such a modification in order to identify rogue access (Whelean [0036]).

20.

21. Claims 9 and 16-21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle (U.S. Patent No. 7134012) in view of Sawada (U.S. Pub. No. 6907470).

Doyle discloses a network device as discussed supra.

22. As per claim 17, Doyle does not explicitly disclose that the network device comprise a plurality of ports.

Sawada discloses a network device with a plurality of ports (e.g. Sawada, router in Fig. 13 and col. 11 line 65-col. 12 line 6).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to incorporate a plurality of ports as taught by Sawada. One of ordinary skill in the art would have been motivated to perform such a modification in order to freely connect users from different subnets.

23. Claims 18-21 are implicit; previously discussed Doyle's disclosure clearly teaches verifying MAC/IP address pair in order to drop spoofed packets.

24. As per claims 9 and 16 Doyle in view of Sawada do not disclose receiving input from a system administrator which selects ports of the plurality of port will be provided based on a source IP address and MAC address pair contained in a data packet.

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Official Notice is taken that configuring computers by administrators (e.g. determine selection of values, e.g. ports) is old and well-known practice in the art of computing (e.g. DHCP scope and firewall administration). One of ordinary skill in the art at the time of applicant's invention would have been motivated to allow administrators to configure computers giving the benefit of network customization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Poltorak whose telephone number is (571) 272-3840. The examiner can normally be reached Monday through Thursday from 9:00 a.m. to 4:00 p.m. and alternate Fridays from 9:00 a.m. to 3:30 p.m.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


KAMBIZ ZAND
PRIMARY EXAMINER


1/31/07